CAREER CHANGES AMONG SASKATCHEWAN PHYSICIANS

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Abstract • Résumé

Objective: To determine how often Saskatchewan physicians changed career paths during medical training and practice.

Design: Population survey (mailed questionnaire).

Setting: Saskatchewan.

Participants: All 1077 active members of the Saskatchewan Medical Association were sent a questionnaire; 493 (45.8%) responded.

Outcome measures: Long-term career goal or plan in next-to-last year of undergraduate medical school, probable choice of career if forced to choose at that time, and number of physicians who changed their field of training or practice at any time since graduation.

Results: In all, 57.8% (237/410) of the respondents were currently practising in a field different from that planned in their next-to-last year of medical school, 63.1% (275/436) were not practising in the field they would have chosen if forced to at that time, and 42.9% (211/492) had changed their field of training or practice at some time since graduation. Older physicians, those who graduated outside of Canada and specialists were the most likely to have changed career paths; family physicians and those who graduated in Saskatchewan were the least likely to have changed.

Conclusion: The current system of postgraduate training in Canada does not permit career changes of the sort made by most of the practising Saskatchewan physicians in the survey sample. The implications of this new system are as yet unknown but require careful monitoring.

Objectif : Déterminer à quelle fréquence des médecins de la Saskatchewan ont changé de cheminement de carrière au cours de leurs études en médecine et de leur pratique.

Conception : Relevé de population (questionnaire postal).

Contexte : Saskatchewan.

Participants : Les 1077 membres actifs de l'Association médicale de la Saskatchewan ont reçu un questionnaire; 493 (45,8 %) y ont répondu.

Mesures des résultats : Objectif ou plan de carrière à long terme au cours de l'avant-dernière année d'études de premier cycle en médecine, choix probable de carrière si l'intéressé avait été forcé de choisir à ce moment-là et nombre de médecins qui ont changé de domaine de formation ou de pratique n'importe quand après avoir obtenu leur diplôme.

Résultats : Au total, 57,8 % (237/410) des répondants pratiquaient dans un domaine différent de celui où ils avaient prévu pratiquer au cours de leur avant-dernière année de médecine, 63,1 % (275/436) ne pratiquaient pas dans le domaine qu'ils auraient choisi s'ils avaient été forcés de le faire à ce moment-là, et 42,9 % (211/492) avaient changé de domaine de formation ou de pratique après avoir obtenu leur diplôme. Les médecins plus âgés, ceux qui avaient obtenu leur diplôme à l'étranger, et les spécialistes étaient les plus susceptibles d'avoir changé de cheminement de carrière; les médecins de famille et ceux qui avaient obtenu leur diplôme en Saskatchewan étaient les moins susceptibles d'avoir changé.

Conclusion : Le système actuel de formation postdoctorale au Canada ne permet pas les changements de carrière comme ceux qu'ont effectués la plupart des médecins actifs de la Saskatchewan qui faisaient partie de l'échantillon du sondage. On ne connaît pas encore les répercussions de ce nouveau système, mais il faut les surveiller attentivement.

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The Canadian medical education system has undergone profound change over the past few years. Perhaps the two most significant developments are the elimination of the rotating internship and the continuing imbalance between the number of medical graduates and the number of available residency positions.

In 1992 the concept of a 2-year prelicensure requirement was introduced by the provincial colleges of physicians and surgeons and became a reality soon afterward.[1] The rotating internship became redundant and was therefore eliminated. It had been a popular postgraduate career path; in 1992, 502 recent and previous medical graduates were matched to a rotating internship program.[2] All Canadian medical students are now required, at the beginning of their final year of undergraduate medical education, to choose either a specialty or family medicine as their postgraduate area of study.

At the time the rotating internship was being phased out, the number of postgraduate positions was not in keeping with the number of medical graduates. In 1992, there were 35 fewer positions than non-francophone medical school graduates,[2] and in 1995 there were 13 fewer positions.[3] Furthermore, the current structure of the Canadian Resident Matching Service has a built-in bias against licensed physicians wanting to retrain: they cannot enter into the first match of applicants to postgraduate positions. By design, the possibility of a previously trained physician entering any postgraduate program at all, let alone the program or location of his or her choice, is small.

The first change has resulted in many medical students feeling ill-prepared to make career decisions because of inadequate exposure to the different specialties before choosing their area of postgraduate study.[4–13] This stressful situation is compounded by the fact that medical students will most likely be unable to retrain if they make an incorrect career choice. Concerns about the present situation appear to be widely shared.[14–17]

Career change in the past has been the rule rather than the exception. An 11-year prospective study in Great Britain showed that only 31% of physicians did not change from their original choice of career; 30% changed once, and 39% changed two or more times.[18] However, knowing how common career change has been in the past does not tell us how important it will be in the future, although it may quite possibly be the most objective measure we have available.

In an attempt to estimate the impact of the recent changes in the Canadian medical education system on the careers of present and future medical students, we attempted to answer the following questions: How common have changes in career path been for physicians in practice today, and how would they have fared if forced to choose a path at the same stage of education that today's medical students must?

Methods

Study population

We surveyed all practising members of the Saskatchewan Medical Association (SMA). At the time of the survey, there were 1077 members, accounting for approximately 70% of the total physician population of Saskatchewan. According to the SMA no significant differences have been identified between the physicians who join the SMA and those who do not. According to the College of Physicians and Surgeons of Saskatchewan no comparison has been carried out between the Saskatchewan physician population and the physician population in other provinces.

Questionnaire

The questionnaire was developed by us with the assistance of Drs. Stan Houston and Stuart Houston. It was not pretested. Each physician surveyed was asked his or her age, sex, place of undergraduate medical education, year of graduation and current field of practice. In addition, they were asked a variety of career-related questions to determine (a) their long-term career goal or plan made in their next-to-last year of medical school, (b) their probable choice of career path if they had been forced to choose at that time and (c) whether they had ever trained or practised in a medical field other than their present one.

Table 1: Demographic characteristics of surveyed members of the Saskatchewan Medical Association and of all Saskatchewan physicians

Characteristic	Group; no. (and %) of physicians: Survey sample	All Saskatchewan physicians
Age, yr	*n = 486*	*n = 1525*
< 50	295 (60.7)	913 (59.9)
≥ 50	191 (39.3)	612 (40.1)
Sex	*n = 477*	*n = 1525*
Male	396 (83.0)	NA*
Female	81 (17.0)	NA
Field of practice	*n = 492*	*n = 1525*
Family or general practice	225 (45.7)	889 (58.3)
Other	267 (54.3)	636 (41.7)
Place of undergraduate medical education	*n = 489*	*n = 1525*
In Saskatchewan	211 (43.1)	467 (30.6)
Elsewhere in Canada	74 (15.1)	212 (13.9)
Outside Canada	204 (41.7)	846 (55.5)

*NA = not available.

The questionnaire, along with an addressed stamped envelope, was included with the February 1994 SMA mailing. The last response came in before May 30, 1994. We did not attempt to contact nonresponders. (A copy of the questionaire is available from the authors upon request.)

Statistical analysis

The demographic characteristics of all practising physicians in Saskatchewan were provided by the College of Physicians and Surgeons of Saskatchewan as of May 1995. For statistical analysis we performed a Pearson χ^2 test using the BMDP New Systems for Windows (BMDP Statistical Software Inc., Los Angeles).

Results

Of the 1077 questionnaires sent out, 493 (45.8%) were returned. Comparing the characteristics of the respondents with those of all Saskatchewan physicians (Table 1), we found that family practitioners were underrepresented in our sample and that University of Saskatchewan graduates were slightly overrepresented. The sample, however, was representative with respect to age and sex.

Overall, 57.8% of the respondents were currently practising in a field different from the one they chose in their next-to-last year of medical school as part of their long-term plan, 63.1% were not practising in the field they would have chosen if forced to at that time, and 42.9% had changed their field of training or practice at some time since graduation (Table 2). These figures changed to 56.7%, 62.6% and 43.5% respectively after we adjusted for the demographic characteristics available to us of the total Saskatchewan physician population (current practice, age and place of undergraduate medical education). Older practitioners, physicians who graduated medical school outside of Canada and those with specialty training were the most likely to have changed career paths. Family physicians and physicians who went to medical school in Saskatchewan were the least likely to have changed. There were no significant differences between the male and female respondents (Table 2).

Table 2: Responses to questions about career choices, by demographic characteristics

Characteristic	Response; no. (and %) of physicians*		
	Not practising in field chosen for long-term plan during next-to-last year of medical school	Not practising in field that would have been chosen if forced to do so in next-to-last year of medical school	Changed field of training or practice at some time since graduation
Age, yr			
< 50 (n = 295)	135/243 (55.6)	158/264 (59.8)	108/294 (36.7)
≥ 50 (n = 191)	100/162 (61.7)	113/166 (68.1)	100/191 (52.4)
p value	NS†	NS	0.0007
Sex			
Male (n = 396)	186/324 (57.4)	219/349 (62.8)	176/396 (44.4)
Female (n = 81)	43/70 (61.4)	47/72 (65.3)	31/80 (38.8)
p value	NS	NS	NS
Field of practice			
Family or general practice (n = 225)	90/194 (46.4)	105/206 (51.0)	65/224 (29.0)
Other (n = 267)	147/216 (68.1)	170/230 (73.9)	145/267 (54.3)
p value	< 0.0001	< 0.0001	< 0.0001
Place of undergraduate medical education			
In Saskatchewan (n = 211)	85/173 (49.1)	101/188 (53.7)	58/211 (27.5)
Elsewhere in Canada (n = 74)	45/61 (73.8)	48/65 (73.8)	30/73 (41.1)
Outside Canada (n = 204)	106/172 (61.6)	125/179 (69.8)	120/204 (58.8)
p value	0.0017	0.0010	< 0.0001
All	237/410 (57.8)	275/436 (63.1)	211/492 (42.9)

*Not every respondent answered every question. Therefore, percentages are calculated as proportions of those providing the pertinent information.
†NS = not significant.

Discussion

This is the first Canadian study that we know of to look at patterns of career change of physicians before and after graduation from medical school. Our survey showed that the actual postgraduate career path chosen by approximately 60% of the respondents was different from what was planned during their next-to-last year of medical school or from what would have been chosen if forced to choose at that time and that over 40% had changed their plans after their postgraduate training began.

There are several limitations to this study. Our response rate was low (45.8%); however, the respondents seemed to be reasonably representative of the medical community in Saskatchewan. When the data were adjusted according to the demographic characteristics available to us of the Saskatchewan physician population, the results changed minimally.

A weakness inherent to retrospective studies is that they are based on memory. Although this problem was unavoidable, simpler wording of the questions might have eliminated some confusion on the part of the respondents. Simplification would not only have made the questionnaire easier to complete but also easier to interpret. For example, the question asking whether someone had trained or practised in another specialty should have been broken into two parts. A pretest might have facilitated such improvements.

When interpreting the data, one must realize that not all career changes require re-entry training positions. For example, a family practitioner may decide to go into administrative medicine rather than another area of clinical practice. At the time of our survey we were interested only in whether change had occurred. Future studies could examine whether re-entry positions versus other options were involved in career changes.

Finally, we are unable to state how generalizable our findings are to the rest of Canada. We invite others to study the situation in their province.

Valente and associates[19] stated that "the selection of a residency program is likely to be the most difficult and important decision made by a senior medical student." We agree. Today's medical students know that they must choose a career path during their next-to-last year of undergraduate study and will therefore try to prepare themselves to do so. Their chances of success must be tempered by the fact that career change in the past has been common for physicians in Saskatchewan. Studies on the impact of the recent restrictions to postgraduate medical education in Canada — on both physicians and their patients — are clearly warranted.

We thank the Saskatchewan Medical Association for distributing our questionnaire to their members; the Student Medical Society (SMS) for printing the questionnaires and providing return envelopes and postage; the busy Saskatchewan physicians who replied to our questionnaire; Dr. Stuart Houston, honorary president of the SMS, and Dr. Stan Houston, Department of Medicine, Division of Infectious Diseases, University of Alberta, for their assistance in designing the questionnaire; and Shaundra Popowich and Cindy Basran, fourth-year medical students at the University of Saskatchewan, for entering the data.

References

1. Ullyot SC: Regional Advisory Committee 2 Report. *Bull R Coll Physicians Surg Can* 1993; Oct: 3
2. Banner S: *CIMS Annual Report*, Canadian Interns and Resident Matching Service, Ottawa, 1992
3. Banner S: *CaRMS PGY1 Match Report*, Canadian Resident Matching Service, Ottawa, 1995
4. Morch SE: Students unprepared for residency applications. [letter] *Can Med Assoc J* 1994; 151: 1237–1238
5. Hesser A, Mehaffey M, Thompson M: Need for more career counseling. [letter] *Acad Med* 1995; 70: 1
6. Cowl CT: Exploring the options. *JAMA* 1991; 266: 1864
7. Cowl CT: Medical students need more career counseling. *Chic Med* 1991; 94: 12–13
8. Krill EA: The rite of spring. *JAMA* 1991; 265: 1193
9. Wilson S, Reece A: Career advice for medical undergraduates. [letter] *BMJ* 1995; 311: 194
10. Bynoe G: Career advice for medical undergraduates. [letter] *BMJ* 1995; 311: 755
11. Dyer KA: It's not the end of the world. *JAMA* 1993; 269: 1184
12. Grum CM, Woolliscroft JO: Choosing a specialty: a guide for students. *JAMA* 1993; 269: 1183, 1186
13. Langlieb AM: Matching in Oz. *JAMA* 1992; 267: 1859
14. Stevenson GW, Wilson S, Hobbs B et al: New regulations hurting radiology. [letter] *Can Med Assoc J* 1994; 151: 11–12
15. Janke EM: Physicians forced south, prevented from changing fields. [letter] *Can Med Assoc J* 1995; 152: 149, 152
16. Mudrik KP: Physicians forced south, prevented from changing fields. [letter] *Can Med Assoc J* 1995; 152: 152
17. Ullyot SC: Regional Advisory Committee 2 Report. *Bull R Coll Physicians Surg Can* 1993; Feb: 4
18. Parkhouse J, Ellin DJ: Reasons for doctors' career choice and change of choice. *BMJ* 1988; 296: 1651–1653
19. Valente J, Rappaport W, Neumayer L et al: Influence of spousal opinions on residency selection. *Am J Surg* 1992; 163: 596–598

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